IN THE CLAIMS

1.   (Original) A method of checking data in a two dimensional pattern, comprising:

identification of a region within the pattern that surrounds at least one feature in the pattern;

subtraction of the feature from within the region, leaving a two dimensional ring-like region; and

analyzing optical behavior within the ring-like region to predict optical interactions.

2.   (Original) The method of claim 1, wherein identification of a region within the pattern includes sizing up the feature by a given distance.

3.   (Original) The method of claim 2, wherein sizing up the feature by a given distance includes sizing up the feature by an optical ambit distance.

4.   (Original) The method of claim 1, wherein analyzing of optical behavior within the ring-like region includes three dimensional optical analysis affecting patterns within the two dimensional ring-like region.

5.   (Original) The method of claim 1, wherein analyzing of optical behavior includes predicting optical interference that forms at least one additional feature in a given lithographic process.

6.   (Original) The method of claim 5, wherein analyzing of optical behavior includes predicting a location of an additional feature in the given lithographic process.

7.   (Original) The method of claim 6, wherein analyzing of optical behavior includes predicting a size and shape of the additional feature in the given lithographic process.

8.   (Original) A method of forming a reticle, comprising:

organizing data into a two dimensional pattern of features;

checking the data, including:

identification of a region within the pattern that surrounds at least one feature in the pattern;

subtraction of the feature from within the region, leaving a two dimensional ring-like region;

analyzing optical behavior within the ring-like region to identify interaction regions;

organizing data into at least one modifying feature located within at least one interaction region; and

printing the two dimensional pattern of features and the at least one modifying feature onto a reticle substrate.

9.   (Original) The method of claim 8, wherein organizing data into at least one modifying feature includes organizing data into at least one sub printing lithographic aperture.

10.   (Original) The method of claim 8, wherein identification of a region within the pattern includes sizing up the feature by a given distance.

11.   (Original) The method of claim 10, wherein sizing up the feature by a given distance includes sizing up the feature by an optical ambit distance.

12.   (Original) The method of claim 10, wherein analyzing of optical behavior includes predicting optical interference that forms at least one additional feature in a given lithographic process.

13.   (Original) The method of claim 12, wherein analyzing of optical behavior includes predicting a location of an additional feature in the given lithographic process.

14.   (Original) The method of claim 13, wherein analyzing of optical behavior includes predicting a size and shape of the additional feature in the given lithographic process.

15.   (Original) A method of forming a pattern of features on a semiconductor substrate:

organizing data into a two dimensional pattern of features;

checking the data, including:

identification of a region within the pattern that surrounds at least one feature in the pattern;

subtraction of the feature from within the region, leaving a two dimensional ring-like region;

analyzing optical behavior within the ring-like region to identify interaction regions;

organizing data into at least one modifying feature located within at least one interaction region;

printing the two dimensional pattern of features and the at least one modifying feature onto a reticle substrate; and

forming the two dimensional pattern of features on the semiconductor substrate wherein the modifying feature substantially prevents printing of unwanted features.

16.   (Original) The method of claim 15, wherein organizing data into at least one modifying feature includes organizing data into at least one sub printing lithographic aperture.

17.   (Original) The method of claim 15, wherein identification of a region within the pattern includes sizing up the feature by a given distance.

18.   (Original) The method of claim 17, wherein sizing up the feature by a given distance includes sizing up the feature by an optical ambit distance.

RESPONSE TO RESTRICTION REQUIREMENT
Serial Number: 10/609,153
Filing Date: June 24, 2003
Title: METHOD AND DEVICE FOR CHECKING LITHOGRAPHY DATA

Page 5
Dkt: 303.854US1

19.   (Original) The method of claim 15, wherein forming the two dimensional pattern of features on the semiconductor substrate includes photolithography with a UV wavelength energy source.

20.   (Original) The method of claim 15, wherein forming the two dimensional pattern of features on the semiconductor substrate includes photolithography with an X-ray wavelength energy source.

21.   (Original) A machine-readable medium with instructions stored thereon, the instructions when executed operable to cause:

identification of a region within the pattern that surrounds at least one feature in the pattern;

subtraction of the feature from within the region, leaving a two dimensional ring-like region; and

analyzing of optical behavior within the ring-like region to predict optical interactions.

22.   (Original) The machine-readable medium of claim 21, wherein identification of a region within the pattern includes sizing up the feature by a given distance.

23.   (Original) The machine-readable medium of claim 22, wherein sizing up the feature by a given distance includes sizing up the feature by an optical ambit distance.

24.   (Original) The machine-readable medium of claim 21, wherein analyzing of optical behavior includes predicting optical interference that forms at least one additional feature in a given lithographic process.

25.   (Original) The machine-readable medium of claim 24, wherein analyzing of optical behavior includes predicting a location of an additional feature in the given lithographic process.

RESPONSE TO RESTRICTION REQUIREMENT
Serial Number: 10/609,153
Filing Date: June 24, 2003
Title: METHOD AND DEVICE FOR CHECKING LITHOGRAPHY DATA

Page 6
Dkt: 303.854US1

26.   (Original) The machine-readable medium of claim 25, wherein analyzing of optical behavior includes predicting a size and shape of the additional feature in the given lithographic process.

27.   (Original) A pattern generating system, comprising:

a processor;

a memory, containing instructions thereon, the instructions when executed operable to cause:

identification of a region within the pattern that surrounds at least one feature in the pattern;

subtraction of the feature from within the region, leaving a two dimensional ring-like region; and

analyzing of optical behavior within the ring-like region to predict optical interactions.

28.   (Original) The pattern generating system of claim 27, wherein identification of a region within the pattern includes sizing up the feature by a given distance.

29.   (Original) The pattern generating system of claim 28, wherein sizing up the feature by a given distance includes sizing up the feature by an optical ambit distance.

30.   (Original) The pattern generating system of claim 27, wherein analyzing of optical behavior includes predicting optical interference that forms at least one additional feature in a given lithographic process.

31.   (Original) The pattern generating system of claim 30, wherein analyzing of optical behavior includes predicting a location of an additional feature in the given lithographic process.

RESPONSE TO RESTRICTION REQUIREMENT
Serial Number: 10/609,153
Filing Date: June 24, 2003
Title: METHOD AND DEVICE FOR CHECKING LITHOGRAPHY DATA

Page 7
Dkt: 303.854US1

32.   (Original) The pattern generating system of claim 31, wherein analyzing of optical behavior includes predicting a size and shape of the additional feature in the given lithographic process.

33-61. (Canceled)